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Before September 11, the threats from weapons of mass destruction and terrorism were treated for the most part as ugly abstractions and not likely to materialize, even though they had done so in the recent past. Now we recognize the threats as being all too real but difficult to assess in terms of their imminence and gravity. There are too many unknowns and uncertainties. What does seem clear is that the major source of the threat has changed. State-sponsored terrorism has steadily declined in recent years. However, the incidence of acts by nonstate terrorists has risen.

Both the Clinton and Bush administrations elected to stress a highly implausible threat to the territorial United States from unfriendly regimes, notably North Korea and Iran. Early in 2001, the State Department conveyed the official line in a guidance memorandum to embassies: "The principal threat today is...the use of long-range missiles by rogue states for purposes of terror, coercion, and aggression."<sup>2</sup>

This dubious proposition—an article of faith within parts of the defense establishment—obscured existing and far more credible threats from truly frightful weapons, some of which are within the reach of terrorists. They include Russia's shaky control of its nuclear weapons and weapons-usable material; the vulnerability of U.S. coastal cities and military forces stationed abroad to medium-range missile systems, ballistic and cruise; the vulnerabilities of all cities to chemical and biological weapons, along with so-called suitcase weapons and other low-tech delivery expedients. Vehicles that

contain potentially destructive amounts of stored energy are a major source of concern, as is one of their most attractive potential targets, a nuclear spent-fuel storage facility.

The example set by youthful Palestinian belt bombers can and very possibly will be emulated by terrorists elsewhere, including the United States. Preventing human bombs is "an incredibly difficult business," says Christopher Langton, an authority on terrorism at the International Institute of Strategic Studies. "It's cheap," he says. "It has the most accurate guidance system available to mankind. It is easily concealed."

The companies that generate, transmit, and distribute electricity are thought by many to be a more serious potential target. The computers that control the nation's electric power system have apparently been probed from the Middle East, and terrorists may have even inspected the physical equipment.<sup>4</sup>

Many experts argue that information warfare directed against air traffic control, the banking system, and communication satellites constitutes a broad and more persistent threat than those associated with weapons of mass destruction (WMD). Some would add environmental issues and narcotrafficking to the list, and ask whether advocates of deploying weapons in space have begun to contemplate the potentially troublesome ripple effect of movement in this direction.

The Bush administration states, wrongly, that the threat from ballistic missile systems is spreading. In fact, there are fewer such systems in the world than 15 years

ago, and fewer nations are trying to develop them. Most of the countries that deploy ballistic missile systems have friendly relations with the United States and possess shortrange systems that could only threaten neighboring states.<sup>5</sup>

Even the latest National Intelligence Estimate notes in its summary that the United States "is more likely to be attacked with materials from nonmissile delivery means—most likely from terrorists—than by missiles." The nonmissile alternatives, the report says, "are less costly, easier to acquire and more reliable and accurate. They can also be used without attribution."

Obviously, there is no wholly reliable or seamless protection against the use of WMD by terrorists. Probably more important than any of the active defenses, which are as varied as the weapons they are designed to neutralize, is the overarching need for prior restraint, which is also known as passive defense and is based on agreements between nations. Some of these agreements set limits on destructive weapon systems. Others turn on preventive diplomacy, still others on exchanges of surveillance data and military transparency. Some of the agreements are bilateral, others the product of diplomacy conducted under the auspices of, yes, multilateral institutions.

Traditional measures can be used to manage the conflict that began last September. Prior restraint, imbued with an especially heavy infusion of creative but patient diplomacy, can become the decisive weapon for waging what could be called the "hidden hand war." We may not know who exactly the adversary is, where exactly he is located, or the extent of his capacity to create havoc. And this conflict may not reach a conclusion. The enemy, if neutralized, may go to ground and reappear one distant day.

Smart weapons and military superiority may dictate the course of a given battle but will not affect the outcome of a campaign against a worldwide web of amoeba-like terrorist cells. The performance of government and the military in this conflict will be no better than the intelligence to which they have access, much of which can only be gained through the give-and-take of diplomacy. Rarely in its past has the United States been obliged to rely so heavily on the cooperation of other states.

Weapons of mass destruction diverge greatly in the destructive power they can unleash. Nuclear weapons aside, few such weapons would be likely to take as many lives as were lost on September 11. An attack, say, with biological and/or chemical weapons could, in theory, take that many or more but would probably fall far short of that number. The destructive effects of even a primitive nuclear weapon would, by contrast, vastly exceed any other horror that could be imagined. Moreover, there is no more serious threat from WMD than the several uncertainties that nuclear weapons have created. And the most acute of these is the possibility of a weapon being launched by accident or inadvertence—by Russia or the United States.

## Russian Weapons

The implicit threat to the United States from Russia's nuclear edifice is more acute than it was during the Cold War. Control of Russia's fissile material is far from adequate, let alone reliable. Russia's early warning network is deteriorating. We know that the General Staff still controls the launch codes. But there are reports from authoritative sources about the declining competence of missile-control crews, their lack of training, and the increasing stress imposed by the thousands of nuclear weapons deployed on hair-trigger alert. Senior officers in Russian nuclear forces talk of spending half their time dealing with the stress and strain on their people.

The State Department's 2001 guidance memorandum, which cited rogue states as the principal menace, was preceded by the report of a bipartisan task force led by former Senate majority leader Howard Baker and former White House counsel Lloyd Cutler that took a different view, and concluded: "The most urgent unmet national security threat to the United States today is the danger that weapons of mass destruction or weapons-usable material in Russia could be stolen and sold to terrorists or hostile nation-states and used against American troops abroad or citizens at home." The report warned of delays in payments to guards at nuclear facilities; breakdowns in command structures, including units that control weapons or guard weapons-usable material; and inadequate budgets for protection of stockpiles and laboratories.7 It cited "impressive results so far" in current nonproliferation programs but concluded that if funding were not increased, there would be an "unacceptable risk of failure" that could lead to "catastrophic consequences."8

Helping Russia to arrest the decline in the safety and security of its nuclear weapons and materials has not been but should become a carefully coordinated three-step approach. Step one would be to assign custody of all weapons-grade fissile material to the Ministry of Atomic Energy, eventually disposing of it. Step two would be to assign custodial responsibility for storage of nuclear weapons to the Ministry of Defense. Step three would amount to removing both Russian and American nuclear missile systems from a quick-launch posture by dealerting them and moving the warheads to storage (step two) en route to dismantling and disposal (step one).9

There are known to be 1,000 tons or so of highly enriched uranium and 150 tons of plutonium scattered around Russia, much of it in badly secured storage sites. There may be even more such material, and not all of the storage sites have been identified. In any case, it is enough material, according to Sen. Carl Levin, chairman of the Senate Armed Services Committee, for between 60,000 and 80,000 nuclear weapons; or, as he observed, enough to constitute "a proliferation nightmare."

Discouraging the theft or illicit sale of Russian materials will require more support for the appropriate steps. The most important of these are the Nunn-Lugar cooperative threat reduction programs named for their founders, Sen. Richard Lugar and former senator Sam Nunn. These programs aim to consolidate and ensure the security of the Russian materials. The Baker-Cutler report recommended a three-fold increase in funding to \$3 billion annually for these programs.

But the effect of additional spending may be at least partially nullified by the agreement on limiting deployed warheads that Presidents George Bush and Vladimir Putin signed in Moscow at the end of May. The text was both meager and indulgent. Russia got what it (and the U.S. Senate) wanted—a binding agreement in treaty form. The Bush administration got what it wanted—a deal that won't inhibit any part of the Pentagon's strategic planning. Not a single missile launcher or warhead will have to be destroyed or disabled under the agreement. Each side can carry out the reductions at its own pace, or even halt reductions and rebuild its forces. Briefly, the United States gets a "reconstitution capability," as it's called, as a hedge against threats that may one day be posed by China or a retrograde Russia.

An escape clause allows withdrawal on three months' notice. The only constraint is that each side can have no more than 1,700 to 2,200 weapons at the end of 2012, when the treaty expires. And those are the numbers called for by the Pentagon in its Nuclear Posture Review. Also, at the end of 2012, each party is free to deploy as many weapons as it chooses unless the agreement is extended.

Since the deactivated warheads will be moved into storage facilities instead of being disabled, they can remain as targets for terrorists. But that danger, it has been argued, is more apparent than real since terrorists are presumably less intent on trying

to steal a large, strategic weapon than a much smaller, tactical one, of which there may be many more-most of them in Russia. We don't know how many. Estimates vary from between 4,000 and 15,000, and besides being more portable, these weapons are thought to be less protected by computerized anti-use codes. Nor can we be sure about the quality of security in some of the warehouses in which these weapons are stored or whether Russia can afford to provide adequate security. What does seem clear is that if the Moscow agreement had provided for destruction of strategic warheads, a useful precedent would have been set. The logical follow-on step could have been a negotiation aimed at getting rid of all or most of the tactical weapons in storage. Politically, the Moscow agreement is another step toward strengthening the U.S.-Russian relationship. However, it will have little, if any, bearing on the interconnected threat of weapons of mass destruction and terrorism.

Less attention has been devoted to the related and possibly graver question about Russia's capacity for preventing a nuclear weapon being launched by accident or inadvertence. The problem, although complex, stems from a generalized decay of the military infrastructure brought on by diminishing resources. Russia's increasing dependence on nuclear weapons as its conventional forces shrink as a result of budgetary pressures sharpens the concern, especially since its long-range missile forces are themselves in a virtual free-fall. Since the 1980s, there has been a 56 percent decrease in Russian missile systems capable of striking the United States and a 48 percent decrease in the number of warheads deployed with these systems. 12 This downward trend is likely to reinforce the concerns of Russian planners that their diminishing strategic deterrent could be neutralized by America's superior offensive forces.

Russia's strategic forces are judged to be more vulnerable than at any time since the

early 1960s. Operational problems bedevil Russia's surveillance/early-warning system. A fire at a satellite control station earlier this year is believed to have crippled spacebased components relied upon to detect a missile attack. The system was already in serious disrepair. Whereas the comprehensive early warning network operated by the United States would detect any significant attack from Russian missiles, Russia's more limited system left behind by the Soviet Union is considered to be incomplete and unable to provide continuous or comprehensive surveillance of attack corridors.<sup>13</sup> The Congressional Budget Office and various authorities have warned that most of the Russian satellites have reached the end of their lives and are drifting out of control.

Russia's warning system against submarine missile attack, designed around a new generation of satellites, is still inoperable. According to one authoritative estimate, the U.S. Navy's Pacific-based Trident submarines, armed with the powerful and highly accurate D-5 missile, would be able to launch attacks through the Pacific gap in Russia's ground-based radar.<sup>14</sup>

A warning system as flawed as this one has already shown itself to be susceptible to false alarms and close calls. As Bruce Blair, president of the Center for Defense Information in Washington, D.C., has written, "a degraded early warning network loses some of its ability to screen out false indications of attack generated by the sensor network. A broken communications link may delay the transmission of a legal launch order, but it may also degrade safeguards against an illegal launch. To illustrate, the special nuclear command link running from the General Staff in Moscow to the launch crews in the field enables the General Staff to quickly transmit the gocode, but it also provides a feedback loop from the missiles to the General Staff to detect and prevent any unauthorized launch attempt at any subordinate level of command. Any number of examples of

this simultaneous erosion of positive and negative control could be provided."<sup>15</sup>

A variant of the unthinkable accident is a scenario in which a medium- or shortrange missile—ballistic or cruise—aimed at an American or Russian city is launched from a ship by a terrorist group and, in the ensuing confusion and uncertainty, the targeted nation initiates a nuclear exchange against the other. Avoiding an event more serious than a close call is the driving task that Washington and Moscow are not treating as urgently as they should, or indeed with any urgency. There is wide agreement that the first step should be the de-alerting of American and Russian strategic missiles. Thousands are deployed on silo-based missile launchers and on submarine-launched systems and kept on hair-trigger alert. Dealerting means separating the missile warheads from launchers and thereby all but removing the danger posed by this quicklaunch posture.

The step cannot be taken unilaterally, and bilateral movement will be difficult given the pressure on Russia to sustain the credibility of its diminishing strategic forces by keeping a major portion of them on alert status. But de-alerting may be altogether ruled out by Moscow if it views these forces as being made vulnerable by a convincing American decision to go forward with National Missile Defense (NMD). Russian planners might well regard the combination of America's superior offensive forces and NMD as neutralizing their country's nuclear deterrent.

Actually, the recent Moscow summit offered a plus, probably unintended. Warehousing roughly two-thirds of the deployed warheads will amount to a long, de facto step toward de-alerting the forces.

An agreement to share information on the launch of ballistic missiles is another step waiting to be taken. An agreement on joint missile surveillance was signed in September 1998 by Bill Clinton and Boris Yeltsin. Predictably, the bureaucracies on

both sides were unprepared for collaboration in an area so sensitive. In June 2000, however, Clinton and Russian president Vladimir Putin agreed to move matters along by creating a Joint Data Exchange Center (JDEC) in Moscow. Its purpose would be "to ensure the uninterrupted exchange of information on the launches of ballistic missiles and space launch vehicles."16 Six months later, the lame-duck Clinton administration reached an agreement with Russia that set forth in detail how the IDEC would operate. And there matters rest. The Bush administration has thus far shown no interest in JDEC.<sup>17</sup> Still, events may create an interest. And JDEC could be very useful, perhaps more so than any step yet envisaged, with the exception of de-alerting, the absent cornerstone of accidental launch prevention.

# Pakistan's Nuclear Weapons

The war against al-Qaeda and its Taliban host has pointed up disturbing uncertainties about Pakistan's nuclear weapons. We know too little about them, and we hear divergent views from people with special knowledge of the problem. We do not know exactly how many weapons Pakistan has deployed; estimates based on somewhat sketchy information point to 35 or so. Nor do we know where some of them are stored or whether weapons are stored separately from delivery vehicles. Exactly who in Pakistan possesses that knowledge, including the whereabouts and security of fissile material, is also unclear. Pakistan is secretive because it worries that external forces, starting with India, might want to take control of or destroy its nuclear weapons.

A widely but cautiously held view is that the weapons themselves are secure so long as Gen. Pervez Musharref's government can prevent upheaval and remain in power. Another rather widely held but equally cautious view is that the government has staying power. Still, it has not inspired confidence, and what would happen in the event of its overthrow is the major uncertainty,

hence a major concern. Inevitably, there has been talk of "exfiltrating" Pakistan's nuclear weapons in that event, a possibility that most people with special knowledge regard as implausible. Former deputy secretary of state Strobe Talbott has said, "I doubt that we know where everything is that we would be going to exfiltrate or extract—[and it would be] dangerous because it would almost by definition be in conditions of political instability when there would be a lot of potential for violence." <sup>18</sup>

Whether even terrorists with a background in nuclear technology could activate a Pakistani nuclear weapon is unclear. Pakistan's weapons, unlike America's and Russia's, are presumed to lack devices of the kind that prevent warheads from being armed unless various codes are punched in. Some U.S. officials have spoken of transferring such devices to Pakistan in order to enhance the security of the weapons. Others oppose such a step, arguing that it would encourage Pakistan to deploy weapons now kept in pieces for safekeeping. Instead, the argument runs, the United States should help only by providing better surveillance equipment, thereby improving physical security around Pakistan's nuclear weapons sites.19

### Dirty Bombs

Terrorists may discover, or have already discovered, that a usable nuclear weapon is beyond their reach. That is the cautious view of many, though not all, specialists. A more attainable alternative, however, might be the so-called dirty bomb, a radiological device using chemical explosives to contaminate a targeted area for an extended period. Various accessible materials could be used to make such a device, including radiological medical isotopes. Another source might be spent fuel rods, although these are highly radioactive, heavy, and difficult to handle.<sup>20</sup>

Exposure to toxic radioactive material would be harmful or fatal to some humans and, depending on location, might also con-

taminate livestock, fish, and food crops. Terrorists, too, would confront safety risks; turning radioactive material into a bomb and delivering it to the target could be dangerous at every stage. Nonetheless, covert disposal of radioactive materials would create widespread alarm and confusion, at the least by planting well-founded concern about long-term increases in the cancer rate. In short, the dirty bomb should not be regarded as a weapon of mass destruction, but as one that if used would cause mass disruption.

After September 11, the Nuclear Regulatory Commission began to consider buying millions of doses of potassium iodide, a drug that protects against thyroid cancer, which can be caused by exposure to radiation. In 1988, the commission decided to offer the drug free to states wanting to stockpile it, but it rescinded the offer the following year. A problem with potassium iodide as a remedy is that it must be given prior to radiation exposure, or shortly thereafter, which means that it must stored near the site of potential exposure.<sup>21</sup>

The Defense Department suggests that with prompt detection most external agents could be disposed of by removing outer clothing and shoes. But prompt detection of covertly dispersed radioactive material can hardly be relied on. Also, just which agencies would be responsible for detection, treating the injured, and discouraging panic is unclear. The public health authorities are simply not prepared to deal with the radiological effects of either a dirty bomb or an attack against a nuclear plant.

## Biological and Chemical Weapons

Biological and chemical weapons have been the focus of much of the informed discussion about weapons of mass destruction, partly because anthrax has already been used, and partly because the United States is unprepared to prevent or cope with a largescale attack using such agents. The U.S. Public Health Service is especially vulnerable. It was gutted in the 1980s, and has since been neglected. "We recognize that we have not as a country, nor as a District, nor as a state, invested the necessary scarce resources in our local and state public health systems," Secretary of Health and Human Services Tommy G. Thompson said in a news conference this past January. According to various public health experts, about 10 percent of local public health departments do not have e-mail, and about 40 percent lack high-speed internet access. 23

Stockpiles of vaccines for various pathogens, if they exist at all, are very small. The United States possesses just 15.4 million doses of smallpox vaccine. These will be diluted to raise that number to 77 million doses. A contract signed in November 2001 with a U.K.-U.S. pharmaceuticals partnership could yield 285 million doses by the end of 2002—enough to cover the entire population. But the vaccine is still in the early stages of clinical trials.<sup>24</sup>

The administering of anthrax vaccine involves six painful shots that make many people sick, and specialists at the Center for Disease Control in Atlanta are not even sure that the vaccine protects against the strain of anthrax that was used against members of Congress and the news media last fall.<sup>25</sup> However, an improved one-shot version is well within reach of the pharmaceutical industry. Last January, the U.S. Food and Drug Administration released over 200,000 doses of the current vaccine. The Defense Department "welcomed" this action but did not commit to further vaccinations of military personnel, announcing only that it expects to reach a decision on whether to do so "in the near future." <sup>26</sup>

The healthcare system would be quickly overwhelmed in the event of a high-casualty attack in which bio-chemical weapons were employed. Hospitals would not have adequate emergency treatment facilities. Victims of contagious diseases could appear in waves, and the symptoms of such diseases as smallpox, which would need to be contained

before becoming epidemic, might not be immediately recognizable by many or most doctors.

Perhaps the most immediate and acute threat from toxic chemicals is a terrorist assault on a plant that manufactures them. A recent study by the army's surgeon general concludes that as many as 2.4 million people might be killed in an attack on a toxic chemicals plant if it were located in a densely populated area. Even the mid-range estimate is for 900,000 casualties.<sup>27</sup>

Fortunately, producing, sustaining, and dispensing biological and some chemical agents would confront nonstate terrorists with major risks and difficulties. Attempts to encapsulate, or weaponize, a deadly virus are likely to render it dysfunctional. Moreover, the chances are that a terrorist bent on martyrdom would die before the complex task of dispensing the weapon was actually completed.

Biological weapons fall into several categories. These include bacteria, which cause such diseases as plague and anthrax, and viruses, which cause smallpox and Ebola. Most bacterial infections can be treated with antibiotics, provided the problem is identified at an early stage and enough drugs are available.

However, not much else can be said with certainty. Whether the most lethal agents could be used on a scale sufficient to kill thousands of people, or even hundreds, is a question on which informed opinion divides sharply. "Low probability, high consequence" is probably as good a characterization of the threat as any.<sup>28</sup>

The example of Aum Shinrikyo, the Japanese terrorist cult, may be instructive. In 1995, Aum Shinrikyo tried to kill thousands of people, first by developing and dispensing various germ weapons, including anthrax. These efforts were a total failure. Next, the group tried reaching its goal by releasing sarin, a deadly nerve gas, in Tokyo subways. In the end, 12 people died, and roughly 5,500 were affected, most of them

mildly. The cult was unable either to produce high-purity sarin or dispense it effectively. What some analysts concluded from this experience was that states bent on causing mayhem could overcome the operational challenges presented by biological agents and some chemical warfare agents but substate terrorists probably could not.<sup>29</sup>

To date, the discussion of the threat from biological and chemical agents has dwelt too little on the difficulties and dangers of employing the various agents to serious effect. Scholars and policymakers have indulged in extreme thinking about this form of terrorism, according to Jessica Stern, the author of The Ultimate Terrorists. "Until recently," she notes, "the threat was entirely ignored; now, it is attracting too much frenzied attention and too little careful analysis, inspired by a widespread conviction that the Aum Shinrikyo case proves that [such] attacks resulting in hundreds of thousands of deaths are all but inevitable. Both attitudes are dangerous. The first has led to the underfunding of programmes designed to prevent or mitigate the threat. The second is leading to over-reaction and hasty decisions, some of which will harm international security."30

Temperature, sunlight, wind, and moisture can all prevent effective delivery of chemical weapons. Biological pathogens are living organisms and thus more fragile than chemical agents. Chlorine in the water supply can kill them. Munitions can as easily vaporize an agent as dispense one. If released from a bomb or warhead, explosive effects would destroy all but 1–2 percent of the agent.<sup>31</sup>

A terrorist group with links to a state already in possession of bio-chemical weapons could be a serious threat. Otherwise any such group, even if well funded, would probably be unable to inflict mass casualties by dispensing one of these weapons. Still, they are instruments of terror and, as shown by Japan's reaction to Aum Shinrikyo's deadly enterprise, even an attack that

fell far short of its goal can produce a reaction lying somewhere between alarm and panic.

#### Cruise Missiles

Improved guidance and propulsion technologies, some of them off the shelf, are producing a variety of new threats, or more intimidating variants of existing ones. Cruise missiles offer an especially strong example. In the past decade, they were considerably more available, more usable and put to greater use than ballistic missiles.<sup>32</sup>

Cruise missiles can be launched from a wide array of land- or sea-based platforms as well as from manned or unmanned aircraft. Unlike ballistic missiles, cruise missiles have wings, are propelled by jet engines, and never leave the Earth's atmosphere. They can be adapted to increase their range much more easily than ballistic missiles. Range can be extended by a factor of five or more without altering the system's airframe or engine. They are smaller and a lot cheaper than ballistic missiles. Compared with ballistic missiles, America's Tomahawk cruise missile, for example, which is 18 feet long and 21 inches in diameter and weighs 3,200 pounds, resembles a toy. In contrast, the intercontinental MX missile system weights 100 tons and is 70 feet long and nearly 8 feet in diameter.

Cruise missiles are hard to detect, and newer versions are incorporating stealth technology. With or without this technology, they are far more accurate than ballistic missiles, capable of striking within a few feet of the target; longer-range versions become preemptive weapons. In all versions, cruise missiles are better suited than ballistic missiles for delivering chemical and biological weapons.<sup>33</sup>

They pose a number of problems, the first of which is proliferation. The incentive for governments to acquire cruise missiles, especially the land-attack version (LACM), is strong because even building a significant number is cheaper than creating a modern

air force. Many of the components that go into cruise missiles, unmanned aerial vehicles (UAVs), and commercial aircraft are common to each.

There are various ways of building a force of cruise missiles, none of them especially difficult.<sup>34</sup> Procuring complete systems from a supplier state is the most direct route, but buyers may run up against the Missile Technology Control Regime (MTCR), an informal export control association of 33 countries that was set up to inhibit the spread of ballistic and cruise missiles and, more recently, chemical and biological weapons. The MTCR membership includes the major suppliers of advanced missile systems and subsystems. The members operate under a set of guidelines; however, there are neither enforcement provisions nor sanctions for violations.35

The MTCR and other restraining ordinances are unlikely to deter supplier countries determined to sell dual-use aircraft and cruise missile components to other countries. Indeed, the MTCR excludes manned aircraft. And, as noted in a recent report published by the Carnegie Endowment for International Peace, "as large UAV's evolve for reconnaissance, missile launching and even civilian communications, pressures are growing to relax MTCR restrictions. Given the likely importance of unmanned combat air vehicles (UCAV's) and other UAV's in the Bush Administration's military strategy, these issues will come to the fore very soon."36

Many countries are putting their development programs underground so as to hide them from overhead intelligence systems. For that and other reasons, the extent of cruise missile proliferation is far from clear.<sup>37</sup> A few of the countries that, ideally, should be part of the Missile Technology Control Regime, including China and Israel, are not. China has been developing land-attack cruise missiles for 20 or so years, and Israel is en route to becoming a major player in the cruise missile stakes.<sup>38</sup> India, which has

not joined the regime either, recently tested a supersonic, medium-range cruise missile, an event described by *Defense News* as "just one of the fruits of a secret joint research agreement between India and Russia." And Russia is one of a number of club members whose adherence to the MTCR guidelines is suspect.

Building cruise missiles around components available on the world market is nearly as simple as procuring complete systems. Most of the relevant technologies are dualuse; the few exceptions, including advanced propulsion systems for long-range LACMs, continue to be restricted. For many years, advanced guidance systems, such as Terrain Contour Matching (TERCOM), were tightly controlled, but their importance receded in the early 1980s when the Global Positioning System (GPS) became widely (and freely) available.40 The easy access to GPS and inertial guidance systems has enabled some states to gain a 15-year head start in navigation with a single purchase. (Some of the states that are nearing or crossing these frontiers of technology can neither feed the mass of their people nor provide them with health care or other basic needs.)

The intelligence community worries about proliferation of land-attack cruise missiles. Vice Admiral Thomas Wilson, director of the Defense Intelligence Agency, has said as much: "The potential for widespread proliferation of cruise missiles is high.... Major air and sea ports, logistics bases and facilities, troop concentrations, and fixed communication nodes will be increasingly at risk."41 Modern cruise missiles can be programmed to attack a target simultaneously from different directions, overwhelming air defenses at their weakest points. Also, LACMs can fly circuitous routes toward a target, thereby avoiding radar and air defenses. 42 The stealth technology will make cruise missiles even more formidable.

Specialists inside and outside the intelligence community have worried over the years about a major threat from cruise

missiles. It has not yet emerged on the scale foreseen, but it will. And efforts to control the number and versatility of cruise missiles may be largely unavailing.

# Rogue State Weapons

The acute dangers described in the foregoing have consumed far less of Washington's attention than the exhaustively debated threat of an intercontinental ballistic missile (ICBM) purposely launched against the United States by a rogue state. This political dynamic created the pressure to develop a missile defense system against the threat and kill the Anti-Ballistic Missile Treaty. This current of opinion is strong but misguided. The missile programs of Iran and Korea are part of a deterrent strategy directed primarily against traditional enemies. For example, Iran's missile systems, when deployed, are likely to be targeted against first Iraq and then Israel, Saudi Arabia, and the U.S. forces deployed in the region.

North Korea is the only one of the five designated rogue states with a missile development program that has made measurable progress. Indeed, the perception of an increasing ballistic missile threat to the United States derives almost entirely from the missile program and exports of North Korea. 43 Among the other four so-called rogue states—Iran, Pakistan, Iraq and Libya—only Pakistan is judged to have succeeded in developing nuclear warheads for its missiles. Iran's missile systems, the Shehab-3, with a range of 600 miles and the Shehab-4, with a range of 900 miles, are knockoffs of North Korea's No-Dong missiles, a system that has tested badly. Pakistan's only mid-range system, the Ghauri, with a range of 900 miles, was also spun off from the No-Dong program.

Whether North Korea can or will want to continue supplying technology and parts to Pakistan and especially Iran is not clear and may depend on what becomes of efforts to revive the discussions between Washington and Pyongyang aimed at shutting down the North Korean programs. The talks had gone a good distance under the Clinton administration before being frozen by President Bush. The intelligence community is sensitive to and, not for the first time, intimidated by the political current. Only the State Department's intelligence people dissented from the assessment naming North Korea and Iran as near-term threats to the United States.

North Korea may be tempted to try to build an extended-range version of the three-stage Taepo Dong II that could reach parts of the western United States. The current version of the system has yet to be tested, however, and technological hurdles could block efforts to go further. The political effects of North Korea's program will probably have more lasting importance. There will be a continuing confrontation with Washington so long as the program exists, largely because of North Korea's exports to other worrisome states. Almost certainly, however, the program exists to be bargained away in return for concessions, economic and political, from Washington. Pyongyang's implicit message to President Clinton's negotiating team, boiled down, was: you want us to give up earning money with our missile exports, then offer assistance and improved relations. While there has been no let-up in North Korea's research and development programs, Kim Jung Il, on a visit to Moscow in July 2001, promised that there would be no flight testing of any of his missile systems before 2003. He offered this pledge unconditionally.

If North Korea were to sell the Taepo-Dong II, which has never been tested, to Iran or Pakistan, Washington's concern would grow sharply, although neither Iran nor Pakistan would be able to strike Alaska or the mainland United States with this system. The Central Intelligence Agency has maintained that deployment of an ICBM is a first priority for Iran. The missile would presumably be the longer-range version of

the Taepo-Dong II that is still largely a paper system. Although Iran disavows any intention of developing a system of greater range than the Shehab III, some of the signs suggest otherwise. The real question is whether Iran could or would be able to finance the development of a strategic missile program over a necessarily long period. The answer is far from obvious. Meanwhile, efforts to develop the Shehab III, a vastly simpler system than any ICBM would have to be, are proceeding, but with mixed results.

Most of the Clinton administration's national security apparatus, according to a *New York Times* report, feared a more imminent danger than the one portrayed by the CIA and others. "The intense focus on longrange missiles that could hit American soil also obscured the more immediate threat posed by nuclear weapons carried by terrorists or fired from ships. The officials said the change in focus devalued the concept of deterrence, by which the sheer force of the American arsenal would inhibit even the most irresponsible leader from attacking American soil."

Ironically, the documents that contributed most to inflating the threat from North Korea and Iran—the Rumsfeld Commission report of 1999 and the intelligence community's unclassified estimate of the ballistic missile threat that appeared a few weeks later—could be read as supporting a contention that Washington had radically skewed the threat. Both documents noted that the United States confronts a wide range of threats, of which the most imminent, credible, and dangerous involve not unfriendly ICBMs, but cargo ships, or other sea-based platforms, equipped with medium-range ballistic or cruise missile systems (or chemical or biological weapons) and deployed not far from the U.S. coastline. These non-ICBM systems were described by the intelligence estimate as being less expensive to develop, easier to produce, more easily disguised, and probably more

accurate than ICBMs for at least the next 15 to 20 years.

In August, Tom Daschle, the Senate Majority Leader, recommended taking \$2.5 billion from the administration's funding request for National Missile Defense and using the money to develop defenses against what he called the more immediate threat from cruise missiles and theater ballistic missiles. At this still early stage of the Bush administration, some of the threats to U.S. interests and international stability have not been thought through, perhaps partly because there has not been enough time, but partly, of course, because the war on terrorism has absorbed the administration's attention.

### Lower-Profile Threats

There is an array of threats that are vastly more credible than the widely discussed notion of long-range missiles deployed by rogue states, and there are few, if any, active defenses against many of them. To take just one example, thousands of container ships, many of them carrying hundreds of containers, arrive in the United States annually. But less than 5 percent of the containers are checked by customs officials, and the identity of the packers is often unclear.

Another example is the potential for massive disruption and damage inherent in fuel trucks and other vehicles that can carry large amounts of stored energy. On any given day, about 6,000 trucks cross the bridge between Windsor, Canada, and Detroit. Half of them carry auto parts, the rest other cargo. Customs officials, who are on duty 24 hours a day, are not authorized to check these vehicles. Inspecting each truck would mean having to do so in just 15 seconds, although an adequate inspection cannot be completed in less than 15 minutes. Even checking, say, every fourth vehicle could create gridlock on the bridge, thereby disrupting the "just in time" rapid transportation system on which much of our economy depends. An agreement with Canada, signed

last December, should help. One of its provisions will allow customs officials to inspect factory shipments on site and then electronically seal the container. A similar deal with Mexico is being worked out.

The Need for Sustained Multilateralism Nothing less than sustained multilateralism will enable major powers to neutralize the interactive problems of terrorism and weapons of mass destruction. As noted above, passive defense based on agreements among nations and between nations and international institutions is the only reliable means of limiting the spread of destructive weapons and discouraging their use by one state against another, whether by design or accident.

Efforts to shut down financial support for terrorist cells must be multilateral. The scope of the challenge is evident in former national security advisor Brent Scowcroft's observation that "there are thousands of avenues for the laundering of money into the terrorist organization." <sup>45</sup>

Regarding intelligence, no matter how good the performance of the intelligence community, surprises are probably unavoidable. For that reason, measuring performance by the standard of prediction is unrealistic and can damage the standing, morale, and performance of intelligence agencies. They are engaged not in winning a war against terrorism but in managing it-restricting the activities and options of hostile forces. However, in waging this campaign the administration talks of discarding deterrence and various forms of passive defense in favor of a strategy of preemption. In that case, prediction would have to become the measure of performance, because a preemption-based strategy would require sustained and timely collection of the kind of intelligence that is rarely available, least of all in a form that connects all the dots.

Effective intelligence collection must be conducted bilaterally but with a wide array of countries. Terrorism can be contained if

intelligence services and police agencies acquire the habit of cooperating closely with each other and suppressing their competitive instincts and preference for acting alone. The United States would be the chief beneficiary of such activity, first, because it appears to be the primary target of various nonstate terrorists; second, because it lacks adequate human resources for gathering the intelligence it needs, notably in Central Asia; and third, because its ability to eavesdrop on global communications is declining. The rapid growth of commercially available technologies is allowing for the creation of all but unbreakable computer codes. Fiber-optic lines give off no electronic signals that can be monitored.46

The United States needs help, especially from allies and other friendly regimes that have productive relationships with countries in this region and in the Middle East. (America has never been good at old-fashioned spying or penetrating the intelligence services of unfriendly countries.) The 1984 summer Olympics in Los Angeles may have produced a model of diligent cooperation among intelligence services operating at both the national and multilateral levels. Well in advance of the games, the U.S. intelligence community felt certain that the possibility of a terrorist action in Los Angeles had been virtually eliminated. Subsequent Olympic events have been equally insulated against terrorism. More impressive was what did not happen during Y2K, when planned attacks by terrorists were thwarted by the combined efforts of intelligence services.

The same could be said of the protection against terrorism that swiftly built up around members of the coalition that took part in Desert Storm in 1990–91. Joint intelligence operations conducted at the time rolled up 30 or so terrorist groups, many of them connected to Iraq. U.S. intelligence agencies found themselves collaborating with elements normally considered more or less off-limits.

The lesson is that terrorism has been headed off when the intelligence agencies of like-minded governments have ramped up cooperation, usually under the pressure of some major event. After such events, however, agencies tend to ramp down, returning to their normal "stovepipes" pattern, which is shorthand for information drifting from the lower to the upper levels of an agency's confines, but not beyond. The terrorist strike against the World Trade Center in 1993 was the consequence of ramping down.

Left to itself the intelligence community is unlikely to take this lesson to heart. Old habits die hard, and the agencies regard sharing information as compromising security. It is counterintuitive, in part because knowledge is power and possessing it may give one of the parties an edge in bureaucratic and budgetary battles. Also, as the game is judged by any one of them, there is no such thing as a friendly intelligence agency. The bias runs this way: I give them something, I've lost something. Law enforcement agencies have a similar mindset.

In a recent article, John Deutch, a former director of central intelligence and Jeffrey H. Smith, a former CIA general counsel, summarized the problem: "Historical boundaries between organizations remain, stymieing the collection of timely intelligence and warnings of terrorist activity. This fragmented approach to intelligence gathering makes it quite possible that information collected by one U.S. government agency before an overt act of terrorism will not be shared and synthesized in time to avert it."

The dead weight of America's intelligence bureaucracy clearly choked off movement of vital information in the weeks leading up to the events of September 11. Still, the anxiety imparted by September 11 was widely shared, and U.S. allies have since then been freely offering useful intelligence, although they began complaining after a

time about a one-way flow of information, of getting nothing back from Washington.

The intelligence agencies of Central and Southwest Asia tell their American counterparts what they want them to hear. Last January, President Bush and senior U.S. officials, referring to documents acquired in Afghanistan, amplified warnings about possible terrorist attacks. But intelligence officials were unable to identify actual plans for another attack. "That's where you need to get multiple sources and interview folks," one official said. "So far, we haven't had enough to issue any new alerts."

Briefly, a pivotal question is whether governments, starting with America's, can develop the habit of insisting that intelligence services work together closely on an uninterrupted basis and give up narrowly focused, bureaucratized behavior patterns. The question has nothing to do with technological gaps between various services or other differences and everything to do with the give-and-take of politics, bureaucratic and international.

Bush's people must soon decide whether the primary goal in the war on terror is subduing terrorist groups, starting with al-Qaeda, that threaten the United States, or pressuring, if not removing, regimes of which the administration disapproves. A useful admonition was provided by Vincent M. Cannistraro, formerly chief of counterterrorism at the Central Intelligence Agency and director of intelligence programs for the National Security Council in the Reagan administration: "Some Defense Department officials argue for broadening the anti-terror war by confronting Hezbollah, Hamas, Palestinian Islamic Jihad and others.... The Justice Department seems determined to take its own anti-terror war into the jungles of Colombia. But such moves risk inviting new enemies to kill Americans even before we have completed our mission to stop al Qaeda operations.... We need to be aware that by confronting terrorists who do not have a 'global reach,' we will do little to

deter the next round of terrorism here in America and may even enhance the danger."<sup>49</sup>

The term "failed states" is in fashion. And a survey of those among them that may harbor threats of the kind we have to think about offers a view of the world that is nearly panoramic. They cannot all be helped or stabilized. The task will be to select a few states that have special regional significance and, if helped, could begin to diminish tensions and moderate behavior within their neighborhoods. This huge task could only be taken on by a special group of countries—perhaps the membership of the G-8, with a chair for China if it chooses to take part. The group would have to work closely with the United Nations and other organizations, global and regional. What all this requires, notably of Washington, is a style of political leadership that eschews unilateralism and anchors itself to a multilateral approach to national security.

It should be clear that terrorism is not a single problem, but an element of a larger problem. Thus far, however, Washington's concern with the causes of terrorism has been minimal. Its actual focus appears to be regime change—establishing an impression at home of threats emanating from the "axis of evil" states, plus a few others. The focus of all or most of the U.S. effort and investment is on dealing with terrorist acts and potential acts. The numbers in the 2003 budget say as much. U.S. foreign aid to promote democracy, address poverty, and improve education will increase by \$226 million, or one-fourth of the \$1 billion that President Bush said the United States now spends each month on the war in Afghanistan. And only \$66 million of the aid money is actually new, the rest having been shifted from other State Department accounts.50

Other members of the coalition, starting with Britain, take a very different view. Last December, Sir Michael Boyce, chief of Britain's defense staff, warned publicly that

"we have to attack the causes, not the symptoms, of terrorism.... Our experience in Malaya and Northern Ireland teaches us that concentrating on the hearts and minds side of the campaign enables us to gain information, to isolate the terrorist and strike him. This is an approach that has proved successful in counter terrorist campaigns the world over.... The desire to use greater forces with less proportionality...will end by radicalizing the opinion of the Islamic world in favor of Al Qaeda."51

### The Tasks Ahead

Neutralizing al-Qaeda and moderating the Arab-Israel conflict are the twin firstpriority tasks confronting the Bush administration. Helping to stabilize Afghanistan is another.

The need to do something about Iraq's weapons of mass destruction is apparent but less pressing and should not blur Washington's immediate focus. The problem of Iraq has little, if anything, to do with terrorism; and what to do about Saddam Hussein's weapons program is far from clear. Equally unclear is just what he has in the WMD bag and whether he could effectively deliver what there is. There is no shortage of opinion on this subject, much of it shrill. Hawkish elements favor combining a surgical but massive assault from the air against Saddam's military infrastructure with a (hopedfor) insurrection abetted by U.S. special forces. Invading Iraq with a force of appropriate size and preceding the step with a bombing campaign would be a more realistic option. However, in the time required to prepare militarily for such a step, not to mention building political support for it, Saddam could be under heavy pressure, especially from countries that matter to him, to meet his obligations to the United Nations. Specifically, he could and should be pushed to allow random inspections of his weapons facilities wherever located. That has been the stated objective of the Bush administration, as it should be. Ridding the

region of Saddam, however desirable, is far less important than eliminating his weapons programs. His refusal to allow inspections on a scale sufficient to pinpoint the location of these programs, along with their scope, would justify changing Iraq's regime by force.

Political support for the military campaign that may be required could be difficult to secure. Russia, various European allies, and countries within the region would want to know whether Washington was ready to accept heavy casualties. More to the point, they would be likely to withhold support unless convinced that the U.S. campaign would succeed in ridding the scene of Saddam and his Baathist regime, and that a generally acceptable successor regime could be installed. Imparting credibility to this latter assurance would be difficult, since a successor to Saddam that various key parties can live with has yet to be identified, and improvisation is not likely to meet the test.

Since the Second World War, the Arab world has been largely shaped by transient passions, notably anticolonialism, nationalism, socialism, and Islamism. The single constant, apart from corrupt and/or incompetent regimes, has been the Arab-Israeli conflict and a perception throughout the region that Washington shares responsibility with Israel for the plight of the Palestinian people. The effects of the dynamic aroused by all this will damage American interests, along with everyone else's, including Israel's.

The Middle East and Persian Gulf constitute a region linked both by geography and persistent instability, of which the Palestine problem is one of two immediate sources. The other lies in the difficulties posed by Iraq and Iran and the uncertainties arising from Washington's controversial policy of dual containment and its application. A key variable is Bush's evolving relationship with Putin and what sort of grand bargain they can work out on a range of issues. Russia has priority interests in Iran, Iraq, Afghanistan and, of course, the Central

Asian republics. This is the region in which terrorism and organized crime intersect. The United States clearly needs close Russian support in coping with these persistent threats to security. In getting this support, not least from Russian intelligence, Washington will have to meet Moscow at least part way.

#### Conclusions

European capitals, probably including Moscow, are unsure about which threats are seen by the Bush administration as most immediate and worrisome. They don't know whether Washington's first priority is isolating, if not removing, regimes of which it disapproves or thwarting al-Qaeda. George Tenet, the director of central intelligence, estimates that only 20 to 30 percent of the cells deployed by the al-Qaeda network in some 50 countries have been destroyed.

The gap between Washington and allied European capitals is widening. It is partly about soft power versus hard power. Politically, Europe is somewhere between unable and unwilling to invest a lot in creating hard power—a capacity to wage high-intensity conflict. However, the United States still regards the first and best answer to threats to security as lying in preponderant military force. European governments, without exception, see military force as a complementary tool in the campaign against terrorism—less essential than a soft-power mix of intelligence, law enforcement, border and financial controls.

A growing chorus of critics within and beyond the region deplore the thrust of U.S. policy and objects to what it sees as pronounced unilateralism and indifference to the interests of others. In describing Iraq, Iran, and North Korea as an "axis of evil," President Bush was taking a line that was —is—radically different from that of close U.S. allies, including Britain.

The question arises: can a strictly mefirst policy accommodate itself to the requirements of the era in which we find

ourselves? Those in Washington who echo Palmerston—states don't have friends, they have interests—may not understand that advancing one's interests is normally a process of give and take, even if the only superpower doesn't have to give as much as others. At some point, the Bush people may recognize their need for partners, as distinct from disgruntled yea-sayers. Such is the hope. •

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